State of Utah

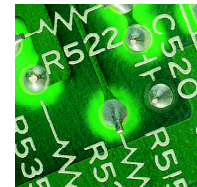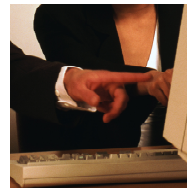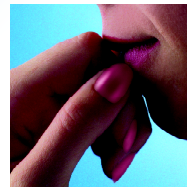# e-GOVERNMENT
Strategic Plan FY2007-FY2009

Baseline

Providing Integrated, Secure, One-stop Customer-centric Services

DTS DEPARTMENT OF TECHNOLOGY SERVICES
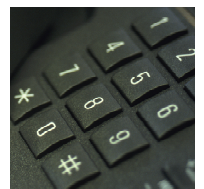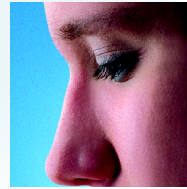
COMMENTS

Please direct comments and suggestions on this document to
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CONTENTS

INTRODUCTION

A comprehensive baseline of Utah e-Government is a significant undertaking. This document provides a baseline of what the State looks like today as it delivers e government. This assessment will focus heavily on the utah.gov portal and its related services and cooperative development strategy with agencies. The baseline consists of the following overall components:

E-Government Portal Baselines—This assessment looks at Utah e-government portals, operational and performance statistics, comparisons with other states, and specialized e-government portal offerings.

E-Government Services Baselines—This section looks at State online services offered through the utah.gov portal and other agency Web sites. The assessment also considers local and federal government services with a Utah specific focus. The baseline looks at government services from a citizen-centric perspective without organizational boundaries.

Metrics and Adoption Rates for e-Government Services—Sample adoption rate data has been reviewed from three agencies, as has adoption rate data compiled by Utah Interactive, Inc. (UI), the contractor for the Utah.gov portal.

Legislative Baseline for Utah e-Government—This section addresses key legislation that has facilitated the development of e-government in Utah.

e-Government Marketing Baseline—This section includes: awards; conferences and tradeshows; association and agency newsletter articles; speaking engagements; press releases; education; marketing collateral; Web site marketing; and traditional marketing activities.

Technology Baseline—The technology baseline examines design elements; infrastructure, at UI and the State; data and information systems; and search capabilities.

This baseline is not intended as a comprehensive review of all e-government services on a detailed level, but it does look carefully at services available to the public on government Web sites. Hence, this baseline takes a citizen-centric perspective. No comprehensive attempt has been made to assess e-government services that are internally facing, or restricted to government to government uses.

e-Government Portal Baseline

Utah e-Government Portals

The State of Utah provides a primary portal to e-government services at www.utah.gov and sub-portal locations that are linked from that site.

Utah.gov

Figure 1. Utah.gov Usage Data Summary

Basic Usage Data[1]

- 907,201 Visitors per month, up 25%
- 17.9 Pages Viewed per Visitor, up 5.7%
- 10:05 Minutes average duration at the Site, up 1.4%
- Rank 1,303 out of the top one million domains

Utah.gov is the main State portal site, and based upon site data from Alexa and Compete, the site has some very positive usage statistics. Data from both of these sources is consistent and seems to accurately represent current site user characteristics. Compete reports 727,555 unique visitors to the site in 2006. Visitors to the site were up 42.1% over 2005. These visitors viewed an average of 17.9 pages per visit and stayed at the site for an average of 10+ minutes. Pages viewed, and duration of each visit to the site, indicate that visitors are finding and using content that may meet some of their government information needs.

Alexa[2] provides detailed information on traffic rank, daily reach, and daily page views for utah.gov, and provides an opportunity to view detailed graphic representations of utilization data. The Alexa data provides confirmation of the information trends and direction reported by Complete, and provides comparative information with other sites.

The traffic rank is based on three months of aggregated historical traffic data from users and is a combined measure of page views and users (reach). The rank of a site reflects both the number of users who visit that site as well as the number of pages on the site viewed by those users. Smaller rank trend numbers reflect higher utilization relative to other sites.

Figure 2.
Daily Traffic Rank Trend Comparisons
for Five States
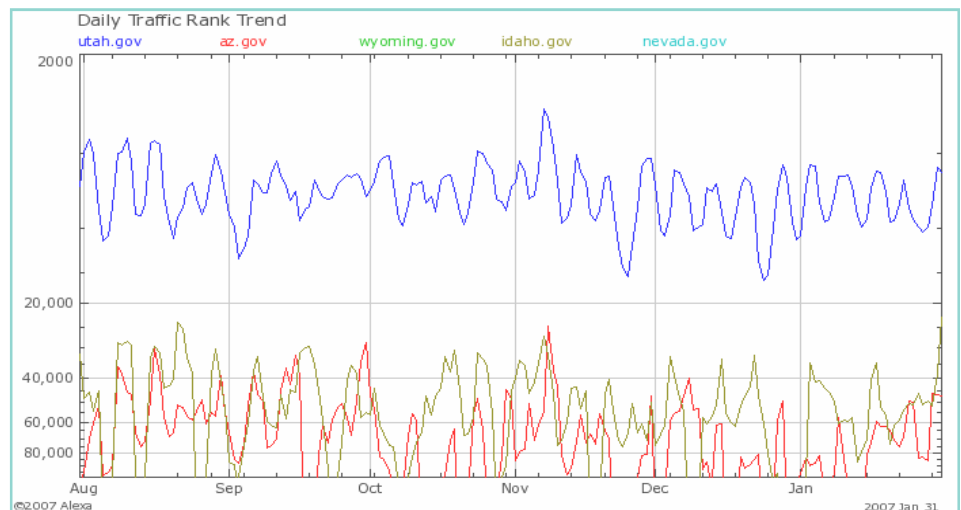
Reach measures the number of users. Reach is typically expressed as the percentage of all Internet users who visit a given site. Reach is expressed as number of users per million.
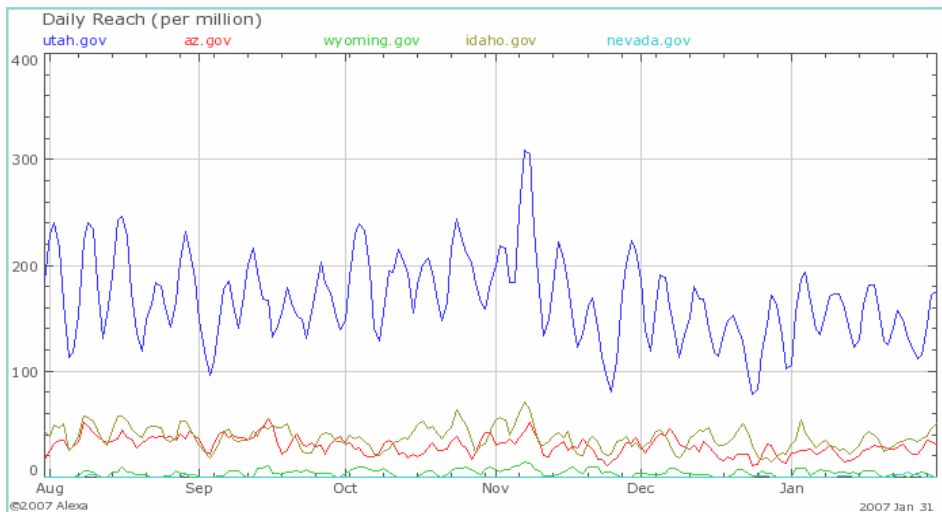
Figure 3.
Daily Reach (per million) Comparisons for Five States

Page views measure the number of pages viewed by users. Multiple page views of the same page made by the same user on the same day are counted only once. The page views per user numbers are the average numbers of unique pages viewed per user per day by the users visiting the site.
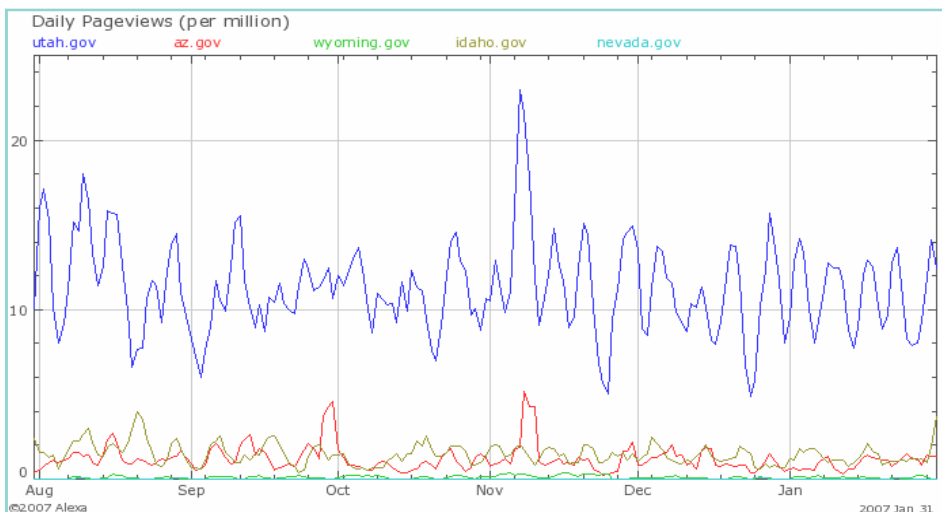
Figure 4.
Daily Page View Comparisons for Five States

COMPARISONS WITH OTHER STATES

To assess how Utah is doing with key measurements such as reach and duration of stay at the Utah.gov site, it is useful to make comparisons with other state government portal sites. Figure 5 shows comparative data for reach, and Figure 6 depicts comparable data for duration, or time spent at government Web sites.

Figure 5.
Citizen Reach Ratio's
on State Government Web Sites

How Well States Reach Their Citizens Through the Internet
Based on Reach Ratio
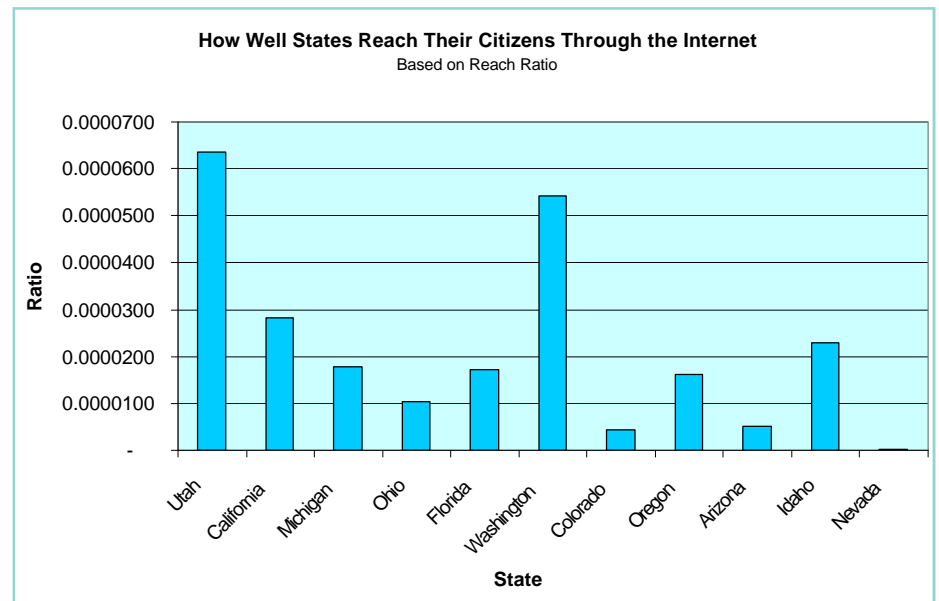
Once citizens access a State Web site, it is also important to understand what they are looking for, if they are able to locate the service or information, and how much interest they have in the site. An indicator of that is the duration of stay. Figure 6 compares how long the average user stays on utah.gov compared to sites for other states.

Figure 6.
Time Spent on State Government Web Sites

Time Spent on State Government Web Sites
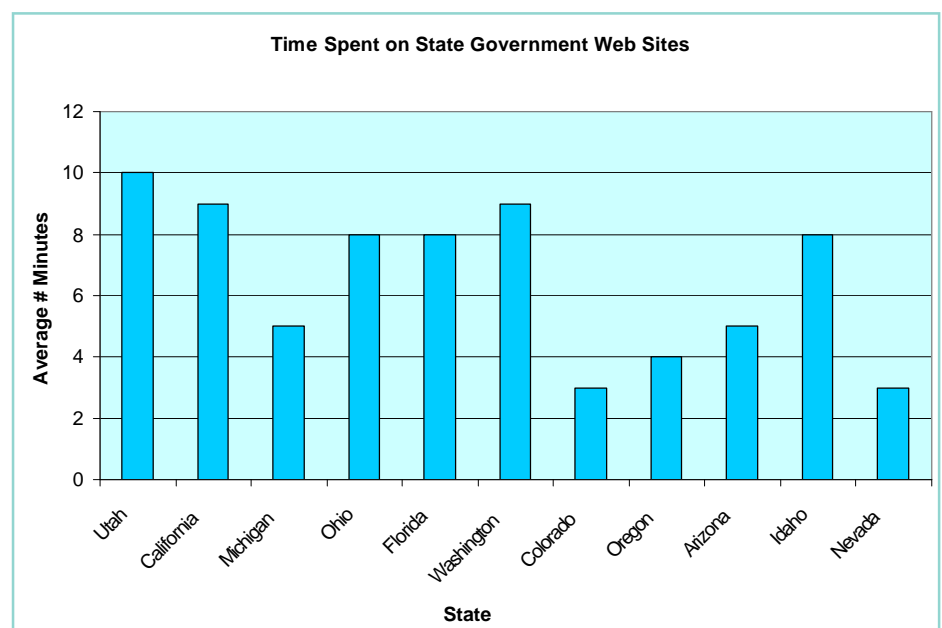
SPECIALIZED E-GOVERNMENT PORTALS

The State offers a rich array of specialized content sub-portals that are linked directly from the utah.gov home page. These portals provide a wide array of information for scenario based users, such as Utah business, travel, legal, careers, and rural Utah. Portals are also available for groups with special needs, such as youth, seniors, and Spanish speaking populations.

**Your Source
for Doing Business in Utah**

- Starting a Business
- Running a Business
- Relocating a Business
- Closing a Business

Figure 7.
www.business.utah.gov

Utah's Career Connection

- Investigate Careers
- Explore Education and Training
- Find a Job

Figure 8.
www.careers.utah.gov

Dedicated to Facilitating Business Growth and Economic Vitality in Utah's Rural Communities

- Communities
- Environment
- Networks

Figure 9.
www.rural.utah.gov

Services and Information for Youth

- Education, Housing, and Transportation
- Pregnancy and Parenting
- Social and Legal
- Healthy Living, Food and Nutrition
- Substance Abuse and Mental Health
- Foster Youth and Parenting

Figure 10.
www.justforyouth.utah.gov

Figure 11.
www.seniors.utah.gov
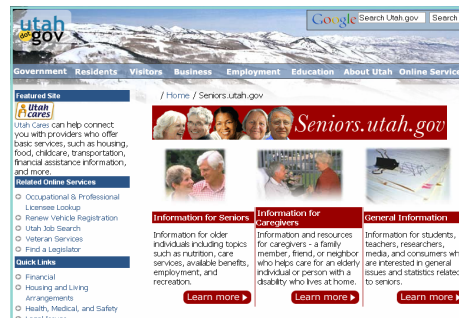
Information for Seniors and Caregivers

- Financial and Legal Issues
- Nutrition and Care Services
- Health, Medical and Safety
- Employment
- Housing and Living Arrangements

Figure 12.
www.español.utah.gov

A Resource for the Spanish Speaking Hispanic Community of Utah

- Living, Residents, and Visitors
- Working, Employment
- Learning and Education
- Information about Utah

Figure 13.
www.legal.utah.gov

Legal Industry Online Services

- Searches
- Tax Payments
- Filings
- Utah Courts Information

Figure 14.
www.helpyourneighbor.utah.gov

Information About Volunteer Opportunities in Your Community

- Volunteer Opportunities
- Traditional Community Services
- Emergency Preparedness and Prevention

Utah Life Elevated

- Plan your Utah Vacation
- Travel Guides and Publications
- Recreational Opportunities
- Utah Events Calendar

Figure 15.
www.travel.utah.gov

Utah Travel

- Travel Activities
- Utah Travel Newsletter
- Utah Travel Guide
- Vacation Planning

Figure 16.
www.utah.travel

Utah State Legislature

- Legislators and Committees
- Bills and Publications
- Constitution and Utah Code
- Senate and House
- Citizen's Guide

Figure 17.
www.le.state.ut.us

Utah State Courts

- Know Your Courts
- General Court Information
- How to on Specific Topics
- Court Resources
- Jury Room
- Media Center

Figure 18.
www.utcourts.gov

E-GOVERNMENT SERVICES BASELINE

Online services available to Utah citizens constitute a wide array of information and services. The current Utah.gov portal site is focused largely on services from agencies developed in cooperation with UI and many other agency sponsored applications and Web sites. A detailed inventory of these services is available separately in the *Utah e-Government Baseline Application Inventory*.

STATE ONLINE SERVICES

The State currently has identified and listed 618 online services in the following categories:

- Business   266 Services
- Citizen   304 Services
- Employee   13 Services
- Intergovernmental   35 Services

The distribution of these services is illustrated in Figure 17. Services for citizens account for the largest area of emphasis, with 304, or 49% of the total. Business focused services follow with 266, or 29% of the total. Intergovernmental services are next with 35, or 6%. And there are 13 services that focus primarily on State employees, or 2% of the total. Though a number of these services have multiple audiences, this analysis looks only at the primary focus of each service. A detailed listing of the services by agency is available in the *e-Government Baseline Application Inventory*.

Figure 19.
Distribution of Utah e-Government Services
by Primary Customer Focus
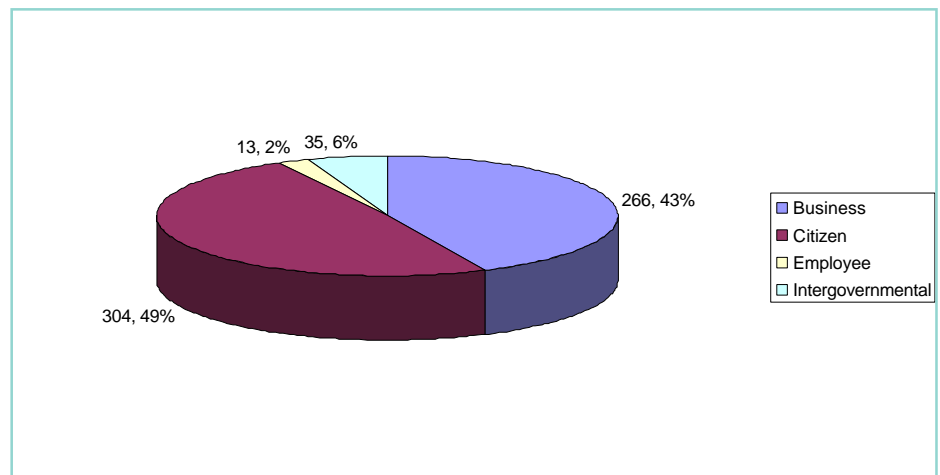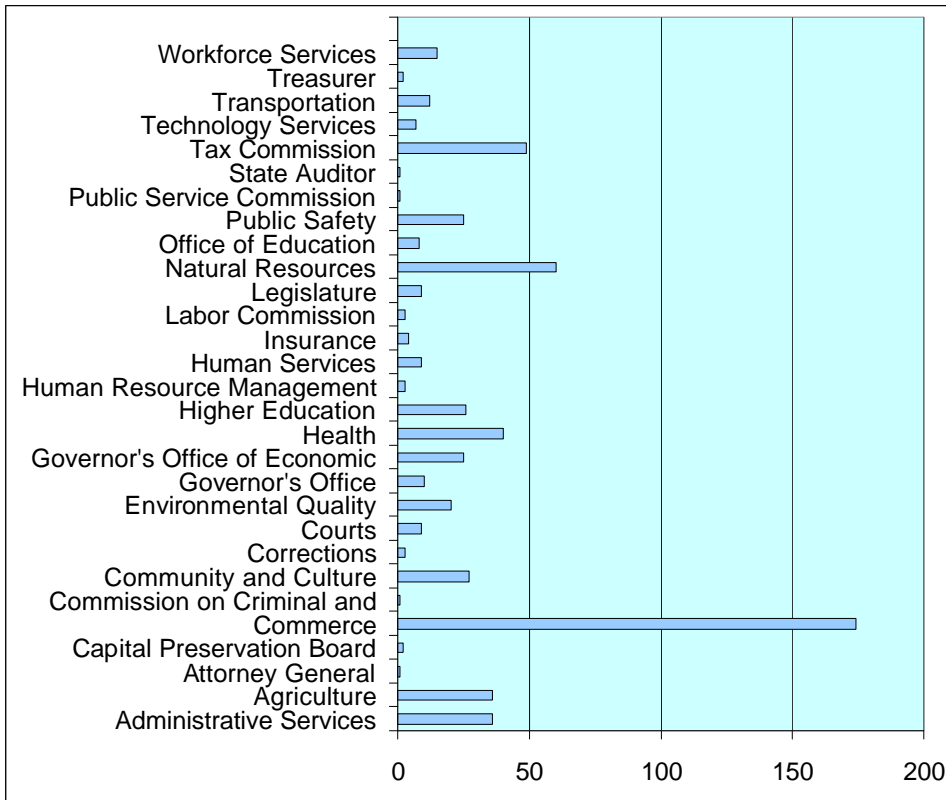
Figure 20.
Distribution of all Utah e-Government Services by Agency

Utah currently leads in terms of available online services when compared to other states. The service numbers in Table 1 are based upon published lists of online services from each state. A number of states provide access to online services but do not provide any accurate way to assess the number of such services that are available.

State	State Web Site	Number of Services
Alabama	www.alabama.gov	140
Arizona	www.arizona.gov	43
Colorado	www.colorado.gov	165
Idaho	www.idaho.gov	46
Maine	www.maine.gov	143
Michigan	www.michigan.gov	412 +
Nevada	www.nevada.gov	300 +
Texas	www.state.tx.us	585
Utah	www.utah.gov	618

Table 1.
Online Services Comparison

Service numbers in Table 1 typically include professional licensing services counted as a separate application for each licensing area. In the case of Texas, that amounted to 515 licensing services, or 88% of all services. The number of licensing services in other states is much smaller and has a lesser impact on service counts.

UTAH INTERACTIVE ONLINE SERVICES

Table 2 lists the applications developed by UI by agency and provides a listing of what services are available today and from which agencies. Some of the services are used by multiple agencies, and these have also been identified. There are also a series of services that are enterprise in scope.

Table 2.
UI e-Government Applications by Agency

UI Applications by Agency
Agriculture and Food
Agriculture and Food License Renewal
CIO's Office
eGov Summit Web Site
Commerce
Annual Business Renewal (ABR)
Business Entity Certificate of Existence
Business Entity List (BEL)
Business Entity Search (BES)
Business Name Availability Search
Business Registered Principal Search
Central Filing System
Commerce Data Web Service
Company Licensing Renewal System
Principal Search by Business Entity
Professional Licensing Renewal
Registered Notary Search
Uniform Commercial Code (UCC) Certified Searches
Uniform Commercial Code (UCC) Continuations
Uniform Commercial Code (UCC) Filing
Uniform Commercial Code (UCC) List
Uniform Commercial Code (UCC) Search
Uniform Commercial Code (UCC) Terminations
Commerce: Occupational and Professional Licensing
Professional Licensing Look-up and Verification
Community and Economic Development and State History
Historical Society Marketplace
Davis County Treasurer
Davis County Property Tax Payments
Department of Health
Children's Health Insurance Program (CHIP) Online Application
Children's Health Insurance Program (CHIP) Online Application Renewal
Dept. of Human Service: Division of Aging and Adult Services
Seniors.Utah.gov, Seniors Portal
Dept. of Insurance
Dept. of Insurance, Captive Insurers Web Site
Dept. of Public Safety: Utah Highway Patrol
Utah Highway Patrol Safety Inspection (UHPSI)

Dept. of Transportation

Express Lanes (HOV Use Stickers)

UDOT Utah GovPay Implementation

Division of Air Quality

Div of Air Quality Online Payments

Division of Real Estate

Real Estate License Renewal

Enterprise

Authorization Web Service

Automated Forms Submission System (AFSS)

Calendar System

Digital Certificate Gateway Module

Interactive Voice Response (IVR)

Payment Engine

Payment Engine Web Service, Version 4.1

Press Release System

UtahGovPay, Web Payment Service

Environmental Quality: Radiation Control

Radiation Control Nuclear Generator Permits

Environmental Quality: Water Quality

Storm Water Permitting System

Government Management Information Sciences: Utah Chapter

GMIS Symposium Web Site and Registration Form

Governor's Office

Utah.gov

Governor's Office of Economic Development

Governor's Office of Economic Development: Event Registration/Payment

Health

Social Services Volunteer Directory (ODHS)

Health: Primary Care Network

Primary Care Network (PCN) Online Application

Health: Vital Records

Vital Records Payments

Human Services

Dept of Human Services: Office of Recovery Services

Insurance

Insurance Company and Agent Search (CAS)

Online Shopping Cart, Insurance Code Book Sales

Lt. Governor

Online Voter Registration

Lt. Governor: State Elections

Lobbyist Registration and Reporting

Lobbyist Search

Lt. Governor's Office

Lt. Governor's Web Site

Provo City

Provo Business License Renewal

Public Safety

Driver License Renewal

Driver Record Search (MVR)

Motor Vehicle Registration (MVR) Batch Web Service

Motor Vehicle Registration Web Service

Sandy City

Sandy City Online Employment Application

State of Utah

24/7 Live Help

Alerts.Utah.Gov

CIO Website

Help Your Neighbor

iGov

Lt. Governor's Web Site

News.Utah.Gov

Utah: First Lady's Web Site

Utah Interactive Partner Web Site

State Treasurer's Office

Unclaimed Property Lookup

Tax Commission

Aircraft Registration System

IFTA/IRP Online Payments

Impound Vehicle

Impound Vehicle Tow Company Entry

Motor Vehicle Title, Lien and Registration Search (TLR)

Payment Express

Payment Processor, Motor Vehicle Enforcement Division (MVED)

Personalized License Plate Lookup

Renewal Express: On The Spot Training Web Site

Renewal Express: On-The-Spot

Sales Tax Filing System (TC61)

Sales Tax Filing System (TC71)

Special Events Sales Tax Licensing

Tax Express Tax Filing

Vehicle Renewal, Renewal Express

Watch Your Car

Tooele County Treasurer

Property Tax Payments, Tooele County

University of Utah

Online Tuition Payments, University of Utah

Utah County Treasurer

Property Tax Payments, Utah County

Utah Office of Education

Educator License Renewal

Utah Valley State College

UVSC Vehicle Emissions Validation

Weber County

Weber Marriage License

Weber State University

Online Tuition Payments, Weber State

Wildlife Resources

Agent Hunting and Fishing License Online (AHFLO): iPOS

Hunting and Fishing License Online (HFLO)

Land Use Permitting Online

Work Force Services; Education

Careers.Utah.gov, Career Portal

Multiple Agencies
Commerce, Corporations; Tax Commission; Work Force Services; Environmental Quality; Labor Commission; Provo City; Sandy City; Salt Lake City; Logan City; Internal Revenue Service (Federal)

One Stop Business Registration (OSBR)

Community and Economic Development; Commerce; Work Force Services; Tax Commission; Administrative Services, Environmental Quality

State Construction Registry (SCR)

Business.utah.gov, Business Portal

State Hosted Services

The Division of Enterprise Technology (DET) within DTS also provides hosting services for a number of State Web sites and online applications. DET currently hosts approximately 140 agency Web sites and 96 online applications for agencies in a number of different application server environments.

Local Services

Local and county governments provide a wealth of information about communities and community services that are highly relevant to citizens. Utah.gov is in the process of integrating access to this information from the State portal site. Utah currently has 29 county Web sites.

There are 498 cities and towns within the Utah, and the Utah League of Cities and Towns lists 240 of those as incorporated. Of the incorporated cities, in excess of 130 have Web sites that provide information and services on a community level. At present there is no single reliable source for all known Web sites for Utah cities and towns. Coverage is provided as follows:

- Utah League of Cities and Towns[3]   132 Web Sites
- Utah.gov[4]   105 Web Sites
- Pioneer Government Information[5]   92 Web Sites

Each of these site listings include some cities that are not repeated on the other site lists, so the actual number of city sites is larger than any of the current listings. Information available from these sites tends to focus on local community services, tourism information, real-estate information, local elections, and city and county based licensing, tax, and general information services. A detailed inventory of these sites and services is available separately in the *Utah e-Government Baseline Application Inventory*.

There is currently no single source for access to all city and county services. Finding city and county services is usually done in the context of residence in a specific area, but many of the information and service components have broader applicability to Utah citizens. There appear to be numerous opportunities for collaboration and information sharing between state, county, and local governments. This seems to represent a significant opportunity to extend the reach and relevance of Utah.gov.

Federal Services with a Utah Focus

The federal government provides a wealth of data and information that deals specifically with Utah. The intent of Utah.gov is to integrate access to this information from the State portal to provide citizens with a seamless view of relevant information from government, irrespective of organizational origins. The State has currently identified 102 federal sites with Utah specific information and data. Federal sites cover a broad array of service and information resources that are specific to the State. Data is available for many different levels of economic and demographic emphasis, as are numerous services from agriculture to taxation. A detailed inventory of these sites and services is available separately in the *Utah e-Government Baseline Application Inventory*.

Federal government services have a large impact in a State like Utah where the federal government has such a large presence in terms of land ownership, national parks and monuments, and military infrastructure. Citizens tend not to differentiate where government services originate, so there are numerous opportunities to make Utah.gov much more of a portal to Utah government services. This opens substantial opportunities for collaboration on services with federal agencies and combining federal data resources and State data to provide more accurate and holistic information for citizens.

Metrics and Adoption Rates for e-Government Services

Agencies have maintained online service adoption data with varying degrees of completeness. UI has maintained transactional data for years, but adoption data requires a view from both user and utilization perspectives. Agencies are measuring adoption as new services are rolled out. Adoption highlights reported by a number of agencies include:

Utah Department of Commerce[6]:

- Thirty percent of transactions have been moved online, allowing the Department to re-allocate resources.
- The Division of Occupational and Professional Licensing increased online renewal to nearly 80% of 150,000 professional licensees, which is one of the highest among State online applications.
- The Division of Corporations and Commercial Code now offers over 75% of its services online to better serve the business community and the citizens of Utah.

  - One stop Business Registration—21.52% Adoption Rate
  - Certificates of Existence—92.2% Adoption Rate
  - Annual Business Renewal—27.56% Adoption Rate
  - UCCI—57.27% Adoption Rate
  - UCC2—89.96% Adoption Rate
  - UCC3—52.3% Adoption Rate

Department of Workforce Services[7]:

- Utah is a national leader in Internet services offered to its nearly 65,000 registered employers.
- Employers using online services grew from 17.4% last year to 35% this year.
- Employees served online by DWS have grown substantially:
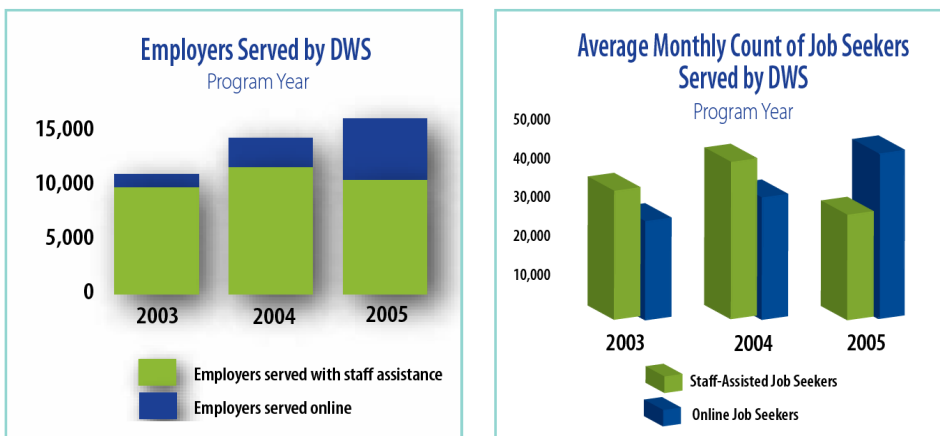
Figure 21. Workforce Services Employers and Job Seekers Served On-line

Utah State Tax Commission[8]:

- Last year electronic filing options were used by 51% of those who filed a State income return, and 24% of motor vehicle renewals were completed online.
- Most tax payments and motor vehicle fees can be made electronically.
- Online research tools and forms make tax information more accessible to the public and employees.
- Figure 22 shows the growth in the number of income tax returns filed and motor vehicle registrations processed.

Figure 22.
Utah State Tax Commission,
Growth in Electronic Transactions
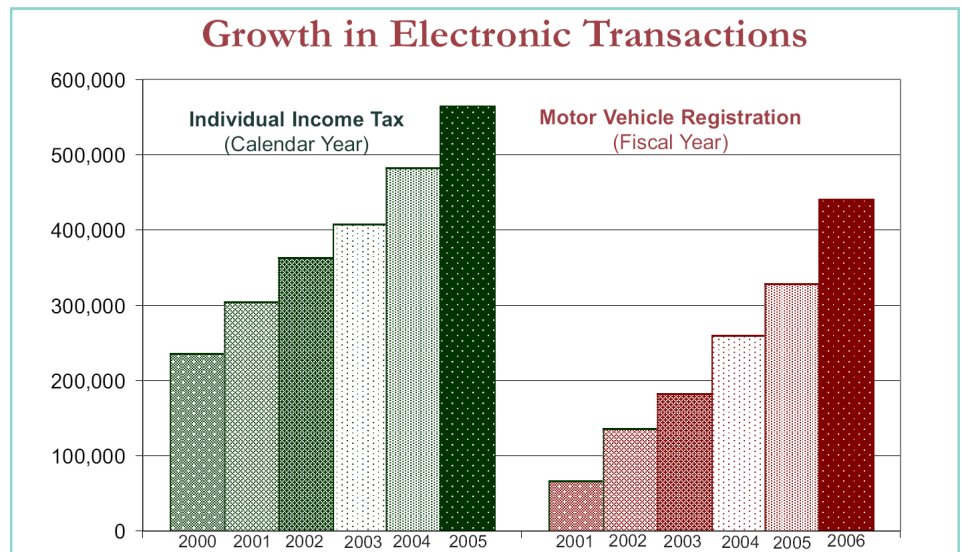
Utilization trends for applications across all agencies are generally on an upward trend, indicating growing adoption rates and acceptance by users. Transactional data from UI shows a similar upward growth trend.

UTAH INTERACTIVE ADOPTION DATA

Adoption data currently tracked by UI is summarized in Tables 3 and 4 for a number of agencies. Trend lines for adoption are generally increasing for most applications. The data reflects statistics for phone and over the counter transactions and online transactions for each service. Total transactions and an adoption rate for online services have been calculated. UI, in cooperation with other agency customers, is developing adoption tracking for all practicable application implementations.

Department of Commerce Adoption Statistics 2006	
Division of Real Estate	
Online Real Estate License Renewal	
Total Phone/Mail/Over the Counter Transactions	4,816
Total Number of Online Transactions	5,166
Total Transactions	9,982
Online Adoption	52%
Division of Occupational and Professional Licensing	
DOPL Verifications	
Total Number of Phone/Mail/Over the Counter Transactions	3,494
Total Number of Online Transactions	919
Total Transactions	4,413
Online Adoption	21%
Professional License Renewal	
Total Number of Phone/Mail/Over the Counter Transactions	8,679
Total Number of Online Transactions	49,541
Total Transactions	58,220
Online Adoption	85%
Division of Corporations and Commercial Code	
Certificates of Existence	
Total Number of Phone/Mail/Over the Counter Transactions	715
Total Number of Online Transactions	11,434
Total Transactions	12,149
Online Adoption	94%

Table 3.
UI Adoption Rates by Agency and Application

Annual Business Renewal	
Total Number of Phone/Mail/Over the Counter Transactions	84,326
Total Number of Online Transactions	63,900
Total Transactions	148,226
Online Adoption	43%
Uniform Commercial Code Filings	
Total Number of Phone/Mail/Over the Counter Transactions	11,358
Total Number of Online Transactions	14,050
Total Transactions	25,408
Online Adoption	55%
Uniform Commercial Code Continuation Filings	
Total Number of Phone/Mail/Over the Counter Transactions	2,012
Total Number of Online Transactions	2,257
Total Transactions	4,269
Online Adoption	53%
Uniform Commercial Code Termination Filings	
Total Number of Phone/Mail/Over the Counter Transactions	3,797
Total Number of Online Transactions	5,907
Total Transactions	9,704
Online Adoption	61%
Uniform Commercial Code Certified Searches	
Total Number of Phone/Mail/Over the Counter Transactions	282
Total Number of Online Transactions	953
Total Transactions	1,235
Online Adoption	77%
OneStop Online Business Registration	
Total Number of Phone/Mail/Over the Counter Transactions	31,499
Total Number of Online Transactions	12,246
Total Transactions	43,745
Online Adoption	28%
Registered Principal Search	
Total Number of Online Transactions	31,007
Registered Principal Search Through Business Entity Search	
Total Number of Online Transactions	152,867
Business Name Availability	
Total Number of Online Transactions	282,077

OSBR FY 2007 Adoption Stats by Agency		
Division of Corporations		
	YTD	**AVG**
In-House Filings	21,527	3,075
Online Filings	7,251	1,036
Total Filings	28,778	4,111
	25.20%	25.20%
Department of Workforce Services		
	YTD	**AVG**
In-House Filings	4,436	370
Online Filings	1,715	429
Total Filings	6,151	1,538
	27.88%	27.88%
Tax Commission		
	YTD	**AVG**
In-House Filings	7,452	1,242
Online Filings	7,838	1,306
Total Filings	15,290	2,548
	51.26%	51.26%
Salt Lake City		
	YTD	**AVG**
In-House Filings	830	166
Online Filings	103	21
Total Filings	933	156
	11.04%	13.25%
Found through OSBR	49	
Sandy City		
	YTD	**AVG**
In-House Filings	116	29
Online Filings	92	23
Total Filings	208	30
	44.23%	44.23%

Table 4:
OSBR FY 2007 Adoption Statistics by Agency

e-Government Marketing Baseline

Adoption of e-government services is driven by awareness and marketing. The public has to know that services exist. Utah.gov has a substantial amount of brand equity and public awareness based upon ongoing marketing and communication activity. The Utah.gov marketing summary[9] for 2006 included:

Awards Won

- First Place—Government Customer Support Excellence Awards, Technical Excellence
- Fourth Place—Center for Digital Government, Digital States Survey
- Fifth Place—Brown University Study
- First Place—Center for Digital Government, Government to Citizen (On the Spot)
- Third Place—Center for Digital Government, Best of the Web
- "A" Minus—National Policy Research Council (NPRC), e-Gov Report Card

Conferences and Tradeshows Attended

- The 98th Annual Utah Bankers Association Convention
- Spring Utah State Bar Convention
- Annual Utah State Bar Convention
- Utah State Bar Fall Forum
- Utah Business Licensing Association Conference
- Government Management and Information Systems (GMIS) Conference
- Annual Government Customer Support Conference

Association and Agency Newsletter Articles

- Utah State Bar Newsletter—SCR Update
- Construction Industry Newsletters—SCR Update
- Utah Business Licensing Association Newsletter—OSBR Update
- Utah Highway Patrol Newsletter—Safety Inspection Information (two articles)
- Real Estate Division Newsletter—Real Estate License Renewal Information

Utah.gov Insider—Began a Quarterly Subscriber Newsletter

- Sent four times.
- Sent to 3,400 subscribers (power Utah.gov users).

Speaking Engagements

- Fall Forum Guest Speaker
- Guest Speaker at Annual Government Customer Support Conference
- Guest Speaker at annual EGov Summit

EGov Summit

- Vendor Participation
- Assisted in Coordination

Press Releases

- TaxExpress—Beginning of Filing Season
- TaxExpress—End of Filing Season
- Renewal Express—Boat Renewals
- UCC Search—Promoted Upgrades
- ABR—Promoted Enhancements

Education

- There were 54 State Construction Registry training sessions given across the state to the construction industry.
- There were nine recruiting sessions given across the state to entice stations to join the On the Spot program.
- There were 16 two hour On the Spot training sessions given across the state to train various stations to use On the Spot.
- There was an On the Spot price point study which was posted on onthespot.utah.gov.

Marketing Collateral

- There were 100 On the Spot banners designed, produced, and distributed.
- There were 200 On the Spot posters designed, produced, and distributed.
- There were 400 On the Spot flyers designed, produced, and distributed.
- There was an Annual Business Renewal mailing insert sent to 10,000 businesses.
- There was an Annual Business Renewal direct mailing sent to high volume filers.
- There was an On the Spot photo shoot with Kevin Park and an OTS station for use in future advertising collateral.
- The Renewal Express packet was redesigned.
- Validate announcement flyers were distributed at the UBA conference to attendees.
- There were 1,100 personalized letters sent to all UHP safety inspection stations.

Web Site Marketing

- The Utah.gov subscriber page was updated to promote the benefits of a Utah.gov account.
- An On the Spot marketing Web site was created containing marketing ideas, studies, collateral, and online training and certification.

Traditional Advertising

- TaxExpress newspaper ads were run in six student newspapers over the course of the income tax filing season for a total of six days each.
- A public service announcement was submitted to NPR for TaxExpress.
- Boat renewals were promoted on www.utahoutdoors.com.
- Boat renewals were promoted on the KSL radio channel.

LEGISLATIVE BASELINE

The State of Utah has in place basic electronic government and IT legislation that enables the provision of government services online and addresses a number of key privacy and security issues. Legislation impacting e-government is an ongoing and rapidly evolving area. Bills that impact e-government and IT in Utah in the current 2007 Legislative General Session include:

- HB0001—State Agency and Higher Education Base Budget Appropriations
- HB0005S01—Internet Sexual Content—Protection of Minors
- HB0006—Controlled Substance Database Amendments
- HB0023—Employment Security Act Amendments
- HB0119S01—Emergency Communication Funding
- HB0125—Centers of Excellence Amendments
- HB0137—Pain Medication Management and Education
- HB0156S01—Utah Employment Verification Act
- HB0219—Unclaimed Property Act Provisions
- HB0222S02—Open and Public Meetings—Electronic Notice
- HB0223—Voter Information Web Site
- HB0379—Child Protection Registry Information
- HB0402—Pawnshop Transaction Information Amendments
- HR0002—Resolution Opposing Real ID Act
- SB0067—Utah Public Notice Web Site Provisions
- SB0076—Electronic Device Recycling
- SB0088—Uniform Real Property Electronic Recording
- SB0102—Master Plumber Licensing
- SB0107S01—Notice of Available Charity Care
- SB0127S01—Tourism Marketing Performance Account Appropriation
- SB0129—Private Investigator Regulation Act Amendments
- SB0133—Local School Board Public Hearing Requirements
- SB0146S01—Prescriptive Practice of Legend Drugs
- SB0151—Case Management Pilot Project
- SB0167S01—Utah Sports Authority
- SB0176—Utah Business Assistance Center Pilot Act
- SB0181—Fees to Cover Cost of Electronic Payments
- SB0198—Tourism Amendments
- SB0199—Division of Real Estate and Related Amendments
- SB0217—Science and Technology Education Program Amendments
- SB0225—Proof of Citizenship Required to Vote
- SB0232S01—Military Installation Development Authority
- SB0249—Economic Development Incentives Modifications
- SB0268—Rural Broadband Service Fund

The list of 2007 General Session bills that impact e-government and IT services in the State are extensive. These bills mandate new electronic services and data collection, and address the basis upon which a great deal of online information and services will be provided. Bills impact IT infrastructure development, handling of fees, and new licensing requirements. Taken together, these pieces of legislation establish the requirements for maintaining a responsive e-government that is aligned with agency business requirements and the needs of citizens.

TECHNOLOGY BASELINE

The technology baseline for Utah e-government has been broken into four key technology areas:

Design Elements—How utah.gov compares with best practices for design attributes commonly expected of Internet sites.

Infrastructure—The current technology utilized by utah.gov to provide e-government services.

Data and Information Systems—The data resources available for e-government to provide services and information to Utah citizens.

Search Capabilities—The search functionalities currently available to help citizens find government information.

DESIGN ELEMENTS

Google Analytics[10] provides useful baseline information about about how users access the Utah.gov Web site. This data has many implications for design, site optimization, and the types of services that citizens will be able to effectively use. The current baseline for key Web design parameters includes:

Browser Versions—Internet Explorer and Firefox account for 96.57% of all browser access (IE 85.59%, Firefox 10.98%, and all others 3.43%).

Platform Versions—Windows and Macintosh account for 99.69% of all user platforms (Windows 96.02%, Macintosh 3.67%. and all others .31%).

Screen Resolutions—Higher user screen resolutions account for 88.9% of all user access (1024x768, 52.73%; 1280x1024, 14.90%; 800x600, 11.10%, and all other higher resolutions account for 21.27%)

Screen Color Resolution—High resolution 32 bit display was by far the most common user screen setting (32-bit, 86.87%; 16-bit, 10.15%; 24-bit, 2.57%; and all other resolutions account for .41%)

Languages—The visitor language preference setting of choice for site visitors was English (English, 98.35%; Spanish, .3%, and all other languages were 2.35%).

Java Enabled—Visitors that had Java enabled on their browsers accounted for 99.59% of all users, with only .51% not having Java enabled.

Flash Version—Only 2.09% of site visitors did not have the ability to use Flash features, and 94.86% of site visitors had Flash 7 or greater enabled.

Connection Speed—Site visitors (89.99%) connected primarily at broadband connection speeds, and only 10.01% of users connect at dialup or unknown data speeds.

Applying this data, a typical site user connects at broadband speeds, has Flash and Java enabled, is English speaking, uses 32 bit screen color resolution, uses a base screen resolution of 1024 X 768 or greater, and uses a Windows operating system and an Internet Explorer browser. This would seem to imply an access environment with extensive capabilities to use advanced and graphic intensive Web technologies and services. Only about 10% of all users require lower resolutions and slower connection speeds.

The data that follows was derived from a Sitescore assessment[11] of the Utah.gov Web site and provides a useful baseline for the effectiveness of key design elements on the site. Areas requiring the most significant attention are compliance with W3C Web accessibility guidelines. The speed assessment for the site is also of interest since it indicates a possible need to improve the capacity of the Web server environment for peak utilization periods.

Table 5.
Baseline Detail for Utah.gov

Speed	The Web site responded in 5.41 seconds, and the homepage downloaded in 5.82 seconds. This is acceptable during peak times, but may suggest that the Web server is struggling to keep up with capacity.
Web Accessibility	All pages were found in violation of the current W3C Web Content Accessibility Guidelines. (989 errors found over 25 pages.)
Use of Page Titles	Some of the Web pages share the same title. Google and other search engines will not be able to easily determine the content within the different pages, and may mark the site down accordingly. Unique titles also help promote the Web site better for keywords specify inside them.
Features	The following five features were specifically identified: Privacy policy, RSS feed, Web site map, News, and a Search facility. Generally, the analysis detected a very positive selection of text and features.
Size of Pages	Web pages are small and should display quickly. The average Web page was 19k in size. The largest page was 39k, and the smallest 7k.
Links To	About 3,920 other Web sites were found linking to this Web site. (3920 quality links, out of 3920). The Web site is extremely well linked to.

No of Images	We found an average of 14.5 images per page. There appears to be little variety in the images within this Web site (1.3 unique images per page).
Use of Style-sheets	A single page was found not using CSS (Cascading Style Sheets). This page is likely to be either very old or not well designed.
Table-based Layout	This Web site appears to use table-based layout for 4% of its pages. Ideally Web pages should be designed without the use of tables for layout.
Use of Fonts	The Web site used fonts appropriately. It uses Arial.
Use of forms	This Web site appears to make wide use of forms throughout.
Use of Frames	All Web pages were found to avoid the use of frames.
Web Site Icon	This Web site includes a "favorite" icon. This is a nice touch.
Use of Headings	All Web pages were found to be using HTML heading tags.
Annoying HTML	All Web pages appear to be free of blinking or scrolling text.
Amount of Text	No specific comments.
Use of Interactive Elements	The Web site does not appear to include any advert keywords in the source files and therefore displays correctly to the user with a spam blocker enabled.
Basic HTML Design	All Web pages were found to be using the basic HTML tags <html>, <head>, <title> and <body> and specified a DOCTYPE.
No of Links	There are 145.8 links per page on the Web site. This amount is fine.
Refresh Redirects	There were no refresh redirects on the Web site.
Use of Audio	All web pages appear to avoid improper use of audio.

Use of Advertising Keywords	The Web site does not appear to include any advertising keywords in the source files, and therefore displays correctly to users with an advertising blocker enabled.
Use of Flash	This Web site appears to have no Flash elements. This is the safest choice for ensuring that the Web site can be viewed by everyone, although when used correctly a small amount of Flash is usually acceptable.

INFRASTRUCTURE RESOURCES

State Infrastructure

Data resides in 35 data centers of various sizes in State and agency data centers. The State of Utah infrastructure[12] is composed of the following types of Web, application, and database hosting server environments in the two principle State data centers in Salt Lake City and Richfield, Utah:

Web Servers—Apache, Microsoft IIS, Sun One, and Tomcat are the primary Web server platforms.

Application Servers—Apache, BEA Web Logic, JBoss, JRun, Oracle Application Server, Tomcat, Sun One, Sybase EA Server, Versata, and Web Sphere are the larger environments.

Database Hosting Environments—ADABAS/Natural, DB2, Informix, Oracle, MS SQL, MySQL, Sybase, and a number of other small database environments.

Application development environments are also diverse, ranging from J2EE, .net, PowerBuilder, and numerous other specialized development platforms. Switching and firewall environments consist largely of Cisco technologies.

The State provides enterprise-wide authentication services using Novell e-Directory, branded as the Utah Master Directory (UMD), and Web site access control infrastructure using SiteMinder.

The State also provides statewide network infrastructure and Internet access from the principal State data centers and a network of 23 geographic hubs. The network has been optimized for fault tolerance across the State.

The current e-government technologies deployed by the State are supported by a wide range of technology choices and platforms that are a reflection of the variety of deployment and architecture decisions made by State agencies. This requires support for multiple integration patterns and technologies in making e-government services available.

Data and Information Systems

Data is one of the most valuable assets of any e-government initiative. The State of Utah has in excess of 817 information systems. Data and related information system resources identified in the IT Assessment Survey in June 2005 are listed in Table 6.

This data is limited to those executive branch agencies reporting to the CIO that participated in the survey. When other Executive, Legislative, and Judicial Branch agencies are included, there are an unknown number of additional information systems available. Taken together, this represents a rich data environment.

Agency/Department	Information Systems	Number and % of UI Services DB Use
Administrative Services	20	0, 0%
Agriculture	64	1, 1.6%
Alcohol and Beverage Control	16	0, 0%
Commerce	11	5, 0%
Community and Culture	41	0, 0%
Corrections	33	0, 0%
Environmental Quality	28	1, 0%
Financial Institutions	5	0, 0%
Governor's Office	15	2, 0%
Health	123	0, 0%
Human Resource Management	10	0, 0%
Human Services	120	0, 0%
Insurance	48	0, 0%
Labor Commission	1	0, 0%
Natural Resources	71	1, 0%
Public Safety	41	2, 0%
Tax Commission	60	5, 0%
Technology Services	19	1, 0%
Transportation	39	0, 0%
Workforce Services	52	0, 0%
Total	**817**	**18, 2.2%**

Table 6.
Executive Branch Databases/Information Systems by Agency

UI has accessed data from a number of different State databases in support of the online services that have been developed in cooperation with the State. Access to this data takes place in various ways depending upon agreements with agencies and consistent with State statutes.

Utah Interactive

At the highest-level, Utah Interactive has two redundant data centers, one hosted in the State data center in Salt Lake City, and the other at a Viawest data center in Denver. When the browser is pointed to http://www.utah.gov/, https://secure.utah.gov/, etc., it opens a connection in one data center or another based on round-robin DNS. Round-robin DNS is a technique for balancing the load between servers on the Internet that perform the same functions. This simple load balancing distributes traffic evenly across the data centers.

The data centers are virtually identical, in that Web content and Web applications are uniformly served out of both. The largest asymmetry is that hosts in Denver do not have direct access to State databases, and so usually connect to State data over an SSH tunnel, a protocol that provides encrypted connections, executing on a Salt Lake City host.

There is a firewall (Cisco PIX 525) in each data center, and every inbound Web and non-Web TCP/IP packet is routed by the firewall to its internal destination host.

The servers in the data centers run a service stack consisting of Apache on the front-end, Resin (lightweight Java app server) at the middleware tier, and MySQL on the back end.

All Web traffic to any utah.gov domain hosted by UI is routed to a host executing a locked-down Apache Web server. There is one Apache content switch in each data center. Since it is in an untrusted zone, this host does not actually store content; instead, it simply operates as a primitive content switch and directs packets to application servers inside a trusted zone.

All static content and Web applications are served by trusted hosts executing the Resin Java servlet container program. There are five such application servers in Salt Lake City, each with a corresponding host in Denver. New applications are released simultaneously to both data centers.

The application servers read and write data from State and/or local (i.e., managed by UI) databases. There are three database hosts in each data center executing MySQL. Data is replicated in real time between corresponding sets of tables to ensure uniform data availability across data centers.

UI also has a third production data center in a Viawest facility in Salt Lake City, which is used for internal and administrative functions only (e.g., source code control, e mail, DNS master, internal project management tools, and backup management nodes).

Application Name	Database Name	Access Type
Agriculture License Renewal	Agriculture License Data	Annual Batch
Annual Business Renewal	Subset of LES Database	Daily Batch
Business Entity Lists, Registered Principle Search, Business Entity Search	LES Database	Daily Batch
Citation Monitoring	Driver Database	Direct
Davis County Property Tax	Davis Property Tax Data	Annual Batch
DEQ Pay	Invoices	Periodic Uploads
Educator License Renewal	CACTUS	Web Service
Generator Site Access Permits	GSA Database	Direct
Hunting and Fishing Licenses and Agent Hunting and Fishing Licenses	Hunting and Fishing database	Direct
Impound Vehicle	UCJIS	Web Service
Lobbyist	Lobbyist Database	Direct
Motor Vehicle Records	Driver Database	Direct
Notary	Notary Database	Daily Batch
One Stop Business Registration	Tax "Bad Players" Data	Weekly Batch
Personalized Plate Search	Bad Plate Data	Monthly Batch
Professional License Renewal and Lists	Subset of LES Database	Daily Batch and Direct via DBVisualizer
Provo Business License Renewal	Provo Business Data	Annual Batch
Real Estate Renewal	REL Database	Daily Batch
Renewal Express	Subset of MVA Database	Monthly Batch
Sandy City Employment	Sandy Employment Data	Direct

Table 7.
UI Access to Agency Databases[13]

Storm Water Permits	Storm Water Database	Direct
Tax Express	Taxpayer Account Data	Annual Batch
TC61	Sales Tax Account Data	Monthly Batch
Title Lien Registration	UCJIS	Web Service
Tooele County Property Tax	Tooele Property Tax Data	Annual Batch
Uniform Commercial Code Filing and Search	UCC Database	Direct
Utah County Property Tax	Utah Property Tax Data	Annual Batch
Utah Highway Safety Inspection	UCJIS	Web Service
Validate	UCJIS	Web Service

In many cases, UI does not have access to entire databases, just limited subsets of the data. UI is currently providing existing services with 18 unique State data stores and four local or county government data bases. The existing Utah.gov service offering from the contractor is using 2.2% of the available systems to provide a useful core of e government services.

Utah Interactive provides a number of services and activities that leverage existing infrastructure. These are listed in Table 8.

Table 8.
UI Summary Statistics for Utah.gov Applications and Sites

Description	Number
Total number of applications developed for State Agencies	200
Total number of applications built on a non-fee basis	38
Number of agencies and divisions using UI services	44
Number of cities and towns using UI services	8
Number of updates to production agency applications in 2006	677
Number of transactions processed in 2006 (excluding searches)	2.5 Million
Number of customer support calls taken in 2006	61,000+
Number of customer support emails in 2006	80,000+
Number of customer support chats in 2006	21,000+

Search Capabilities

Information and government services are of value only if users can quickly find what they are seeking. Context matters. A user looking for licensing information in Commerce has very different needs from users seeking licensing information from Wildlife Resources. Current search capabilities are just beginning to address semantic issues and more effective meta-tagging of services to improve access.

Current search capabilities are dependent on Web site contextual descriptions and very limited attempts at effective meta-tagging. Database resources, for the most part, are not searchable by external search engines such as Google or Yahoo.

Utah.gov provides two basic search functionalities on the site. The first is a Google site search that crawls the entire Utah.gov domain and selected other State Web sites with other domain designations that are sponsored by Utah government agencies. This search is currently being modified to rely on site maps and selected database searching that will continue to improve the user search experience. The goal is to expose as much State information as practical for all types of users.

The Utah.gov site also has implemented an Ajax site search that allows users to enter keywords and get access to information on the Utah.gov sites as well as hundreds of additional Utah specific State, local, and federal government sites.

Searches on Utah.gov were analyzed using word frequency analysis for a four month period ending in January 2007. There were 108,118 searches that were analyzed with 5,115 unique search terms. Table 8 shows the results by file format.

Top 20 Search Words

Utah—20,407
State—6151
Business—2,393
Government—1,926
County—1,415
City—1,405
Salt Lake—1,259
Gov—824
Map—756
Services—674
Jobs—612
Laws—598
Tax—569
License—566
List—561
Department—555
Job—513
Facts—500
Information—498
Employment—481

Table 8.
Searchable Document Formats on Utah Government Web Sites as of February 2007.

Document Formats	Number	Domain Name
All Formats (Total)	548,000	Utah.gov
All Formats (Total)	292,000	State.ut.us
Domain Totals	840,000	
Selected Formats	Number	Domain Name
PDF Files	228,000	Utah.gov
	254,000	State.ut.us
.doc (Microsoft Word)	14,700	Utah.gov
	2,660	State.ut.us
.xls (Microsoft Excel)	1,290	Utah.gov
	543	State.ut.us
.ppt (Microsoft PowerPoint)	605	Utah.gov
	87	State.ut.us
.rtf (Rich Text File)	2,080	Utah.gov
	35	State.ut.us

Some of these terms merely set context, such as Utah, State, County, and City. Others reflect core content areas of interest to search engine users, such as map, jobs, laws, tax, and employment. A number of abbreviated forms, such as Gov and Biz, also appear frequently, indicating that users employ informal terms to find information. Clearly, people searching for information on Utah.gov have interest in State and city and county information. They are also interested in practical areas such employment, taxes, and licensing. These areas of focus are useful indicators of areas that could be addressed with improved meta-tagging and keyword indexing and would result in benefits to users.

The quality of searches may be dramatically enhanced with site mapping and with some possible attention to taxonomy issues that are appropriately applied to Utah Web site meta-data. This appears to be an opportunity for significant improvement in search results and relevancy for users.

The State of Utah is in the process of branding security for Utah.gov users and providing detailed explanations of site service guarantees. Utah.gov makes the following assurances to users regarding specific security functionalities:

Secure Socket Layer Encryption (SSL)—This enables the encryption of sensitive information during an online transaction with the State.

Firewall Protection—This hardware and software protection controls data entering and leaving the Utah.gov network.

Secure Internal Networks—All data transferred between databases is done via secure FTP or Virtual Private Networks (VPN) to ensure that only authorized users can access the network and no one can intercept data.

Data Storage Policies—Unless necessary, Utah.gov does not permanently store financial information, so it cannot be retrieved and compromised.

Secure Policies and Procedures—Password and network activity audits are performed quarterly.

Physical Location Security—All physical locations where hardware and software are located are physically secured and only accessible by individuals with proper credentials.

Application Security—A software tool is employed to scan for individual application vulnerabilities.

Sarbanes-Oxley Compliant—Utah.gov adheres to change control procedures.

Payment Card Industry Data Security Standards (PCI DSS) Compliant—Adherence to performance measurements outlined in the annual self evaluation as well as submission to regular scans from Security Metrics to search for network vulnerabilities.

Taken as a whole, these are the current communicated security measures that have been identified for users of Utah.gov resources. These assurances are associated with the Utah.gov portal site, and are designed to stress the message that Utah.gov makes a vigorous effort to protect the personal information of users when they do business with Utah government online.

Agency Security Audit Findings (PCI)[15]

The State of Utah processes payment card transactions for a number of different online and offline services, such as the Tax Commission Payment Express tax payments, UDOT Port of Entry permits, and the Public Safety Online Driver License Renewal system.

In an attempt to protect consumers from identity theft and fraud, the payment card industry (PCI) has developed a series of information security standards. Entities which process payment card information, like the State of Utah, are required to adhere to these standards. Failure to do so can result in heavy fines and possible revocation of payment card processing capabilities.

The PCI Standard is broken down into six sections, with 12 security requirements and 75 specific auditable items. Of the 75 audit points, the State was compliant on 34 (45%) of the items and non-compliant on 41 (55%). While no agency was 100% compliant, some agencies were closer than others. Although there is no evidence that the current weaknesses have been exploited, exploitation could result in unauthorized access to, or disclosure of, sensitive credit card holder information.

Some compliance areas, such as "maintain a policy that addresses information security," could be solved by issuing State-wide policies and procedures. Other items require work within individual agencies to resolve the compliance issue. While some agencies were nearly complaint, no agency at this time was able to achieve 100% compliance.

SUMMARY AND CONCLUSIONS

A holistic view of e-Government in Utah and the Utah.gov presence leads to a number of conclusions concerning both the present environment and opportunities for future growth and development.

CURRENT STATE OBSERVATIONS

- The existing State infrastructure supporting e-government is adequate for today's agency-specific approach to application development for e-government.

- For the State to adapt to new and changing customer requirements, more emphasis on common and shared services will be required.

- There are numerous duplications of functionality between agencies in separate applications that could, in many cases, be better served with a shared application infrastructure that meets multiple needs, such as inspections, licensing, reporting, and business intelligence.

- Data integration and subsequent service integration is complex and will eventually inhibit rapid development of new and more capable e-government services.

- Meta-tagging of information on State Web sites is not applied in a consistent enough manner to facilitate reliable access to government information.

- Many agency Web sites still represent significant variation in look and feel that is consistent across the enterprise.

- The Utah.gov common header and footer are used by most executive branch agencies.

- Existing integration of maps with other data sources has been implemented on only a limited basis, but this represents a rapid area of growth for agencies and places additional demands on infrastructure.

- Only a very small percentage of available databases, less than 5%, are currently used to support e-government applications.

- There is significant variability in password management and site control methodologies, even though the State already ahs in place a master directory and Web access infrastructure that is usable and reliable.

- Security branding and common methods for accepting payments are in early stages of development. What is in place works well, but has not been widely adopted.

- Adoption data and benefit analysis is not being provided for a majority of e-government services.

- There are numerous opportunities for collaboration with federal, local, and county governments to increase public awareness and jointly develop government services for Utah.

- Most existing forms are Adobe PDF files and do not connect to databases.

- The current Utah.gov domain consists of over 800,000 pages of information. Access to that information is limited by current search, crawl, and tagging methodologies.

Opportunities for Improvement

The State is fortunate to have such a strong suite of e-government services and supporting infrastructure. This legacy offers some significant opportunities for possible improvement of services:

- Many existing forms could be converted into applications connected directly to databases and integrate more closely with agency business processes.

- Data integration through mashups and shared data between agencies could facilitate an entire new generation of rich online service applications.

- A statewide master directory structure that is used by both employees and the public sector could simplify security and related authentication for a wide range of users.

- Enhanced meta-tagging and integration of federal and local government services with existing and new State services could give citizens a reliable and capable single access portal for e-government services.

- Enhanced searching that effectively crawls all State, local, and selected federal Web sites, document files, and selected databases can provide an opportunity for citizens to find and use relevant government information.
- Greater attention to semantic or context driven search capabilities that recognize the users context when they are looking for information.

- Infrastructure services and Software as a Service (SaaS) implementations could be deployed to provide access to commonly used services, such as authentication and directory services, image galleries, shared data sources, mapping services, media services, survey services, and other component applications that support rapid application development and code re-use.

- Improved collaboration with other State non-Executive Branch agencies, as well as federal, county, and city agencies, to increase service awareness and develop cooperative application environments for citizens that leverage multiple agency data resources.

- Improved metrics and analysis that considers online service adoption and cost and other benefits for online services from agencies.

These are only a few of the opportunities for the improvement of e-government services. Utah is in a uniquely strong position to move to a new level of service effectiveness and reach with services that meet citizen and government needs.

ENDNOTES

1   Complete: Snapshot of Utah.gov at http://snapshot.compete.com/
    www.utah.gov.

2   Alexa: Traffic Analysis Utah.gov at http://www.alexa.com/data/details/
    traffic_details?url=www.utah.gov.

3   Utah League of Cities and Towns, *Links to Utah City and Town Home Pages*,
    at http://www.ulct.org/ULCTLeg.nsf/vMultiLevelLookup/
    01FFBA0EA151114B8725703500710F59?OpenDocument.

4   *Utah.gov City and County Information* at http://www.utah.gov/government/
    citycounty.html.

5   Utah State Library. *Pioneer Government Information* at http://
    pioneer.utah.gov/government_information/CityAndCountyWebSites.html.

6 Utah Department of Commerce Annual Report: 2006 at http://
    www.commerce.utah.gov/report06.pdf.

7   Utah Department of Workforce Services, jobs.utah.gov Annual Report: 2006
    at http://jobs.utah.gov/edo/annreport/ar2k6/ar2006.pdf.

8   Utah State Tax Commission Annual Report: 2006 at http://www.tax.utah.gov/
    research/reports/fy06report.pdf.

9   Utah Interactive, Inc., *2006 Utah.gov Marketing Summary*, February 7, 2007.

10 *Google Analytics for Utah.gov* as of February 13, 2007 at: https://
    www.google.com/analytics/home/report?rid=1421240et=&scid=827740.

11 Sitescore: Detailed Assessment of Utah.gov at www.sitescore.silktide.com.

12 *IT Assessment Survey: Architecture and Information Systems*, June 30, 2005.

13 Utah Interactive, Inc., *Utah.gov Access to Agency Databases*, February 7,
    2007.

14 *Who Links to Me Data for Utah.gov* at www.wholinks2me.com.

15 *State of Utah Payment Card Industry Self-Assessment Audit Report*,
    September 15, 2006.